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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,294	03/12/2004	Bjorn Paulshus	7822-91660	8246

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EXAMINER

GARCIA, ERNESTO

ART UNIT PAPER NUMBER

3679

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,294

Applicant(s)

PAULSHUS, BJORN

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-27 and 29-33 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

The drawings are objected to because reference character should be placed on Figure 2 to show the individual filaments or rods. Reference character 3 in Figure 1 appears to point to the same component as that of reference character 2. Reference character 2 in Figure 1 should have two more lead lines leading to the other two unreferenced strands. Further, reference character 1 should be arrowed to depict the tension member as a whole. Currently, it appears that references characters 1-3 point to the same component.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "optical fiber in the strand" (claim 32, line 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "aramid fibers" recited in claim 22, line 4.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 3679

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure fails to disclose "a sleeve-shaped tightening screw" (line 13) or that the tightening screw is connected to the second receiving body by a retention screw. According to the figures, sleeve 11 is connected to the second receiving body by a retention screw 9 extended from a central bore in the second receiving body and a nut 12.

Claims 24 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 24, it is unclear what a sleeve shape tightening screw is? Is there a particular standard that someone of ordinary skilled in the art knows what it is?

Regarding claim 25, the metes and bounds of the claim is unclear. The claim has set forth that the termination of strands is in a tension member in line 1. Yet, it is unclear whether the tension member is a distinct feature than the strands and the receiving body. According to the abstract, the tension member consists of a plurality of carbon fiber filaments gathered into one or more strands. So, the examiner questions what exactly is in a tension member?

Claim Rejections - 35 USC § 103

Claims 22, 26, 27, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paulshus, WO 98/395325, in view of Brandestini, 4,068,963.

Regarding claim 22, Paulshus discloses, a termination of one end of a tension member **1** comprising multiple strands **2**. The strands **2** comprise fibers selected from the group consisting of carbon fibers, aramid fibers, and glass fibers (see page 3, lines 19-21) and the fibers having a lower shear force and durability than steel (see page 2, lines 12-15). A transitional zone (near reference **10** in Fig. 4) in the tension member **1** where the strands **2** are spread apart. At least one receiving body **3**. Each of the strands **2** in the transitional zone **10** are inserted into a narrow end **A5** of a respective conical hole **A6** in the at least one receiving body **3** and fixed in relation to the hole by a hardened mass **5**. However, Paulshus fails to disclose the wall of the conical hole **A6**

having a slip agent applied thereto such that the hardened mass **5** is prevented from adhering to the wall.

Brandestini teaches, in Figures 1 or 2, a slip agent **50** applied to a wall of a respective hole to act as a suitable friction-reducing agent (col. 2, lines 46-56). Therefore, as taught by Brandestini, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a slip agent to the wall of the respective hole of Paulshus to act as a suitable friction-reducing agent. Placing the slip agent is beneficial because it would prevent torsional shear due to torsional loads on the bundles. Applicant should note that the slip agent **50** inherently prevents the hardened mass from adhering to the wall of the respective hole.

Regarding claim 26, the strands **2** are anchored in the holes **A6** in the receiving body **3**, and the holes **A6** are arranged in at least one ring around a center of the receiving body **3**. Note that Figure 4 shows several holes around a center of the receiving body **3**.

Regarding claim 27, the holes **A6** taper inward in a direction towards the tension member **1**.

Regarding claim 33, the holes **A6** comprise an increasing cross section in the direction away from the tension member **1**.

Claims 23, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869 (see marked-up attachment), in view of Paulshus, WO 98/395325.

Regarding claim 23, Andrews discloses, in Figure 5, a termination of one end of a tension member **A1**. The tension member **A1** comprises strands **16**. The termination comprises a transitional zone **A4**, a first receiving body **13**, a second receiving body **12**, and a retention screw **45**. The transitional zone **A4** is in the tension member **A1**. The strands **16** are spread apart. Each of the strands **16** is inserted into a respective hole **14** in one of the at least two receiving bodies and fixed in relation to the hole **14** by a hardened mass **26**. The first receiving body **13** and the second receiving body **12** are joined together in a concentric relationship via adjoining surfaces **A2**. The first receiving body **13** has a smaller diameter **A9** than the second receiving body **12**, thereby allowing at least one of the strands **16** secured in the second receiving body **12** to extend beyond the first receiving body **13**. The retention screw **45** for supporting the termination, the retention screw **45** extending from a central bore in the second receiving body **12**. However, Andrews fails to disclose each of the strands **16** comprises a plurality of fibers. Paulshus teaches that strands are comprised of fibers for sustaining greater strength when subjected to tensile stress (page 2, lines 16-19). Therefore, as taught by Paulshus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the strands comprised of fibers for sustaining greater strength when subjected to tensile stress.

Regarding claim 29, the holes **14** taper inward in a direction towards the tension member **A1**.

Regarding claim 31, the holes **14** are arranged in at least one ring around a center of second receiving body **12**.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869 (see marked-up attachment), in view of Paulshus, WO 98/395325, as applied to claims 23, 29, and 31, above, and further in view of Brandestini, 4,068,963.

Regarding claim 30, Andrews, as modified, fails to disclose a slip agent applied to the wall of each of the holes so that the hardened mass is prevented from adhering to the wall of the holes. Brandestini teaches, in Figures 1 or 2, a slip agent **50** applied to a wall of a respective hole to act as a suitable friction-reducing agent (col. 2, lines 46-56). Therefore, as taught by Brandestini, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a slip agent to the wall of the respective hole to acts as a suitable friction-reducing agent. Applicant should note that the slip agent **50** inherently prevents the hardened mass from adhering to the wall of the respective hole.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews, 3,778,869 (see marked-up attachment), in view of Paulshus, WO 98/395325, as applied to claims 23, 29, and 31, above, and further in view of D'Agostino et al., 5,182,779.

Regarding claim 32, Andrews, as modified by Paulshus, discloses an end of at least one of the strands **16**, secured in the second receiving body **12**, is accessible at a surface of the second receiving body **13** opposite the tension member **A1** such that there is access to a fiber in the strand. However, the fiber is not an optical fiber. D'Agostino et al. teach a fiber optic is included in a strand to detect strains and stresses in the strand (see abstract). Therefore, as taught by D'Agostino et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make one of the carbon fibers in the strand an optic fiber to detect strains and stresses in the carbon.

Allowable Subject Matter

Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 28, the prior art of record does not disclose or suggest a termination of one end of a tension member comprising a first receiving body having a smaller diameter than the diameter of a ring formed by the holes in a second receiving body. See lines 4-5. The closest prior art, Paulshus, WO 98/39532, and Andrews, 3,778,869, do not include this feature and there is no suggestion to provided this modification because in Paulshus, the receiving body is made of one piece, see Figs. 1-3, and in Andrews, the diameter of the first receiving body is larger than the diameter of the ring formed by the holes 26.

Response to Arguments

Applicant's arguments with respect to claims 22-24 have been considered but are moot in view of the new ground(s) of rejection.

Further, applicant should be aware that the amendment filed on 10/6/05 failed to provide remarks regarding patentable novelty of claims 28-33 in accordance with MPEP 714.04.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30-5:30. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.G.

Daniel P Stodola

E.G.

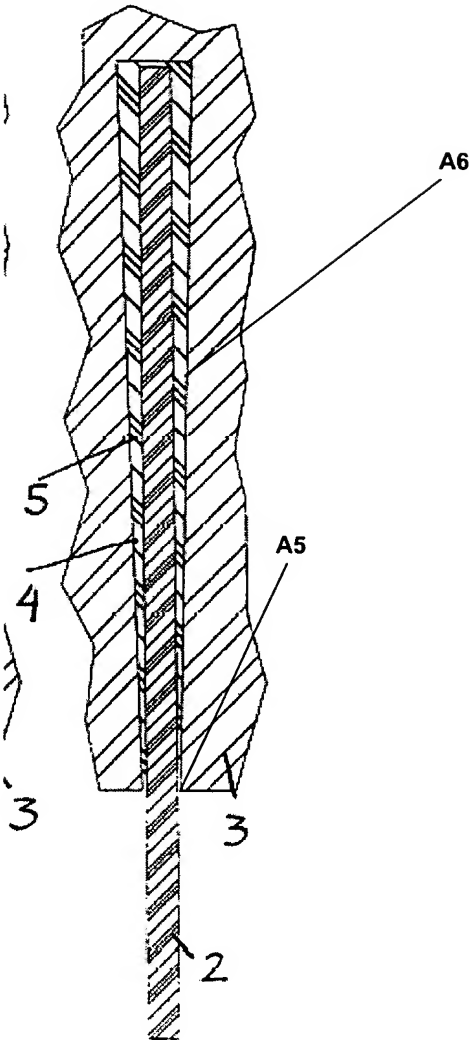
December 26, 2005

Attachments: one marked-up page of Paulshus, WO 98/39532
one marked-up page of Andrews, 3,778,869

**DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600**

Paulshus, WO 98/39532

Fig. 6d



Andrews, 3,778,869

